

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

In the Matter of	)	
	)	
Modernizing the E-rate	)	WC Docket No. 13-184
Program for Schools and Libraries	)	

**COMMENTS OF SUNESYS, LLC**

Alan G. Fishel  
Stephen D. Thompson  
Arent Fox LLP  
1717 K Street NW  
Washington, DC 20036-5342  
(202) 857-6000  
alan.fishel@arentfox.com  
stephen.thompson@arentfox.com

*Counsel for Sunesys, LLC*

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## **EXECUTIVE SUMMARY**

Sunesys, LLC supports the Commission in its laudable efforts to reform and modernize the E-rate program. The E-rate program has been instrumental in incentivizing competition among broadband service providers, such as Sunesys, who bid on E-rate supported service contracts. Now, the E-rate program must be harnessed to achieve even more – more capacity, more options, more competition.

Accordingly, the Commission should reform the E-rate program so that it is even more focused on advancing high-capacity broadband connectivity at affordable prices to the nation's schools and libraries. Sunesys recommends the following:

- The Commission should implement E-rate reform in a manner that will encourage competitive providers of broadband services to move into even more jurisdictions and provide greater competition to these markets.
- The Commission should adopt goals and measures for high-capacity broadband connections that are flexible enough to take into consideration likely advances in high-capacity broadband over the next five years.
- The Commission should adopt its proposed goal to make WAN connectivity of at least 10 Gbps per 1,000 students and staff to each school within a district; this goal is both appropriate and readily achievable.
- The Commission should prioritize promoting fiber-based broadband solutions over other types of broadband architecture because fiber connectivity has consistently proven to be the most cost-effective, flexible and scalable solution for the vast majority of schools and libraries over the long-term.

- The Commission should require E-rate funding applications at the school district level. Making funding decisions at the school district level provides a number of benefits, including simplifying and streamlining the application process as well as reducing some of the administrative burden on USAC.
- The Commission should continue to support consortium or other bulk purchasing opportunities. Consortia and groups of schools and libraries can aggregate demand, take advantage of economies of scale, drive down prices, and promote the efficient use of facilities.
- Prior to placing any additional reporting burdens on schools and libraries, the Commission should first determine what data is already public and how that data is being used before it requires more disclosure.
- The Commission should not reform the competitive bidding process in markets that already experience a healthy amount of competition to provide E-rate funded services.
- The Commission should amend its rules on multi-year contracts to streamline the application process on contracts with terms of up to five years. Multi-year contracts can provide cost savings by creating administrative efficiencies, and allow schools and libraries to spread the costs of large capital expenditure projects over a longer period of time, encouraging investment in much-needed broadband solutions.
- The Commission should consider providing additional, temporary E-rate funding for a three-year period such as that recommended by the ConnectED initiative. Such additional funding should be focused on making high-capacity broadband connectivity available to schools and libraries.

## **COMMENTS OF SUNESYS, LLC**

Sunesys, LLC (“Sunesys”) submits these comments in response to the Federal Communications Commission’s (“Commission”) Notice of Proposed Rulemaking (“NPRM”) released on July 23, 2013, in the above-captioned proceeding concerning reforming and modernizing the E-rate program, as well as building on prior E-rate reforms adopted in 2010.<sup>1</sup>

### **INTRODUCTION**

Sunesys is a dynamic, forward-thinking telecommunications services and fiber solutions provider that has been delivering efficient, cost-effective broadband solutions to a variety of institutions in many states around the country since 1998. Over that fifteen year period, Sunesys has laid over eight thousand route miles of fiber, connecting tens of thousands of users to each other and to the world. As a certified E-rate service provider, much of this work has been done on behalf of schools and libraries, where Sunesys has been laying the foundation for the future of high-capacity broadband and helping to bring the forefront of digital connectivity to our nation’s students and educators.

At the heart of Sunesys’ E-rate supported broadband services is its managed wide area network (“WAN”) solutions. Sunesys has substantial experience in designing, deploying and managing WANs for countless school districts, including some of the nation’s largest and, therefore, most data-intensive such as the Philadelphia School District and the Cobb County, Georgia School District. Sunesys’ managed WAN solution provides a technologically advanced network that can grow to accommodate all of a school’s or library’s future bandwidth needs, year after year. Sunesys designs its WAN systems in a manner that allows its customers to upgrade to additional connectivity by simply switching out the modulating electronics that light the fiber.

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<sup>1</sup> *In the Matter of Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184 (Rel. Jul. 23, 2013) (“2013 E-Rate NPRM”).

This network design, for example, allows a school or library to go from 1 Gbps to 10 Gbps of capacity with relative ease and minimal costs. In fact, this ten-fold increase in capacity currently averages out to only 2 - 2.5 times the cost – and the cost of these increases in capacity continue to decrease.

As the Commission recognized in the NPRM, WANs play an important role in the broadband connectivity ecosystem for schools and libraries. Not only do they provide opportunities for aggregating data traffic and take advantage of certain economies of scale within a school district, but they also “provide dedicated connections between the schools within a school district or the schools and libraries within a consortium allowing them to easily share information and resources.”<sup>2</sup> Sunesys is committed to helping schools and libraries create customized WANs that seamlessly meet current education broadband demands and future expectations – all while remaining cost-effective.

Sunesys has experienced firsthand the competition that the E-rate program has helped to foster. In every market in which Sunesys operates, multiple parties compete to win E-rate related bids. This competition has encouraged broadband service providers to develop more innovative solutions at lower costs and Sunesys has consistently provided affordable high-capacity bandwidth to schools and libraries since its inception. In fact, Sunesys has been able to price 1 Gbps capacity fiber connections at much lower prices than many schools or libraries are able to receive for more traditional broadband options, including copper and cable. Because Sunesys is able to provide cutting-edge broadband capacity at a price and in a manner that makes gigabit connectivity affordable today, some of the schools that Sunesys serves have already selected WANs with up to 10 Gbps.

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<sup>2</sup> *Id.* at ¶ 79.

The E-rate program has been instrumental in incentivizing this competition. The Commission has used the E-rate program to help bring basic connectivity to schools and libraries across the country. Over the years, the Commission has honed the E-rate program to make it more cost-effective and to make sure that schools and libraries are getting the services they need. As just one example of this, when the Commission most recently reformed the E-rate program in 2010, it provided additional options to schools and libraries for meeting their connectivity needs by including some support for dark fiber. Though this was a small step, it added one more arrow to the quiver of competitive options for schools and libraries, providing some with a more cost-effective solution to meet their broadband needs.

But now the E-rate program must be harnessed to achieve even more – more capacity, more options, more competition. Taken together, these principles will lead to even more cost-effective outcomes for schools and libraries. From the perspective of a competitive broadband service provider such as Sunesys, many schools and libraries are on the threshold of achieving truly cutting-edge broadband capacity, but need additional flexibility and options within the E-rate program to make this a reality. The nation's educational and technological standings in the world continue to be at stake and, depending upon the investments made to support them, they will either wane or regain their former status as the ultimate model to be followed.

That is why the Commission's efforts to reform the E-rate program so that it is focused on advancing high-capacity broadband connectivity to the nation's schools and libraries is of such monumental significance – and why Sunesys supports these efforts. If the Commission were to implement E-rate reform in a manner consistent with the comments below, Sunesys and other competitive providers of broadband services would be able to move into even more jurisdictions and provide even greater competition to these markets.

## **DISCUSSION**

### **I. The Commission Should Adopt Goals and Measures for the E-Rate Program That Will Help Propel the Nation's Schools and Libraries Forward**

#### **A. The Commission should adopt broadband connectivity targets that take into consideration ever-increasing broadband capabilities and utilization**

The Commission seeks comment on the goals and measures it should adopt for the E-rate program to ensure that schools and libraries have affordable access to broadband that supports the digital learning needs of students, teachers and library users. Consistent with the goals of the Administration's ConnectED initiative and the recommendations made by the State Education Technology Directors Association ("SETDA"), the Commission proposes in the NPRM to set an immediate target of at least 100 Mbps service with target of 1 Gbps to most schools and libraries within five years (or 2017-18). Given the rapidly growing utilization of advanced applications such as real-time remote learning, the Commission should not aim for what would appear to be adequate broadband today. Rather, the goal should be to propel the nation's education system forward with ever-increasing broadband capabilities that match schools' and libraries' then-current needs, which can change every year and sometimes even more often than that.

To that end, whatever goals or measures the Commission adopts, they should be flexible enough to take into consideration advances in high-capacity broadband over the next five years. While 1 Gbps may seem like an adequate benchmark today, the pace of technology may make it less than sufficient over the course of the next five years. The goals and measures that the Commission adopts, however, should also be flexible enough to address the different challenges faced by schools and libraries in rural or difficult to serve areas. Achieving high-capacity broadband connectivity for many rural school districts or public libraries will likely require a



host of solutions – and the Commission should take care to ensure that the E-rate program can accommodate such solutions.

**B. The Commission Should Adopt WAN Targets of At Least 10 Gbps Per 1,000 Students and Staff by 2018**

The Commission has also requested comment on the performance measures it should adopt for WANs among schools within a school district. Following the recommendation of SETDA, the Commission asks whether schools within a district should have access to WAN connectivity to other schools within their district of at least 10 Gbps per 1,000 students and staff by 2017-2018. Sunesys supports this goal as not only appropriate, but readily achievable. Sunesys, in fact, manages WANs for school districts that are today already operating at 10 Gbps. If designed and deployed correctly, a WAN has the capability of increasing its throughput exponentially at costs that remain on a more linear scale. As more schools and libraries take advantage of ever higher capacity WAN services, these costs will continue to decrease. Thus, while Sunesys supports the Commission's proposed WAN targets on their face, taking these facts into consideration, Sunesys would also encourage the Commission to entertain the potential for yet even higher WAN targets.

**II. The Commission Should Promote A Fiber-Based Architecture But Allow Flexibility for the Most Cost Effective Solution – Whether Lit, Dark, or Wireless**

The Commission also seeks comment on the most efficient and future-proof technological architectures that schools and libraries are likely to use for connectivity. The Commission should prioritize promoting fiber-based broadband solutions over other types of broadband architecture. Fiber connectivity has consistently proven to be the most cost-effective, flexible and scalable solution for the vast majority of schools and libraries over the long-term.

By prioritizing fiber over other architectures, the Commission will most effectively achieve its goal of future-proofing the nation's E-rate investment.

Once deployed, the throughput capacity of fiber is capable of being upgraded in a manner that is relatively easy and extremely cost-effective. As discussed above, the ability to upgrade an existing fiber-based network from 1 Gbps to 10 Gbps would, today, only cost approximately 2-2.5 times more. That is a ten-fold increase in connectivity for less than triple – and in some instances only double – the cost. Consistent with other technology, these costs have historically and consistently decreased as higher-capacity broadband becomes more widely adopted. Thus, due to its scalability and historically decreasing costs, fiber represents the most cost-effective and future-proof technological architecture for schools and libraries.

This is not to say that other technological architectures, such as coaxial cable, wireless and microwave, should receive no support. Where an application of such technology is either the most cost-effective or, in some instances, the only solution available to a school or library, then E-rate funds should be made available. The end goal of the E-rate program should not be about artificially choosing which technology is the winner, but rather finding the best solution for schools and libraries in each situation. While the vast majority of the time that solution will be fiber, in those instances when it is not, the Commission should keep enough flexibility into the E-rate program to allow schools and libraries to choose an alternative.

### **III. The Commission Should Ensure Equitable Access to Limited E-rate Funds by Providing Support to Schools on a District-Wide Basis**

To balance the high demand for E-rate funding with ensuring equitable access to those funds, the Commission makes a number of proposals for revising the manner in which it distributes E-rate funding. For example, the Commission asks whether it should require “all schools within a school district to submit applications by school district, rather than by individual

school or groups of schools within the same discount, and to use the average discount rate for the entire school district rather than the weighted average for each school building.”<sup>3</sup> The Commission should pursue this proposal. Making funding decisions at the school district level, as opposed to an individual school basis, provides a number of significant benefits, many of which the Commission identifies in its NPRM.<sup>4</sup> It would simplify and streamline the application process by making the E-rate discount calculation across an entire school district. It would also potentially reduce some of USAC’s administrative burden because it would no longer need to review the discount percentage rate for each individual school.<sup>5</sup>

The Commission, however, should not adopt its separate proposal to incorporate a per-student or per-building cap on funding into the discount matrix.<sup>6</sup> The Commission should not implement this approach because it has the potential of placing artificial limits on certain schools where, in fact, there is great need. E-rate funding decisions should be made on actual needs as opposed to predetermined limits or caps.

#### **IV. The Commission Should Provide Additional Incentives to Encourage Consortium or Other Bulk Purchasing Opportunities**

The Commission requests comment on whether and how it should continue to support consortium or other bulk purchasing opportunities. With few exceptions, aggregating demand through groups of individual institutions whose interests are aligned can have beneficial results. For instance, consortiums and other group purchasing opportunities can take advantage of economies of scale through aggregated purchasing of broadband services, and promote the efficient use of facilities. To that end, the Commission should reform the E-rate program in a

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<sup>3</sup> 2013 E-Rate NPRM at ¶ 126.

<sup>4</sup> *Id.* at ¶ 128.

<sup>5</sup> Sunesys understands that there may likely be limited circumstances where applications cannot be processed on a district-wide basis.

<sup>6</sup> *Id.* at ¶ 135.

manner that will further encourage schools and libraries to participate in consortia and other group purchasing opportunities. The Commission can do this by simplifying and prioritizing the consortium or group purchasing E-rate application review process.

**V. The Commission Should First Determine What Information Is Currently Publicly Available Before It Requires Any Additional Disclosures**

The Commission has also proposed to increase the transparency of E-rate spending and specifically the prices E-rate applicants pay for service. While Sunesys agrees that, in principle, increasing transparency can aid in oversight of the E-rate program and potentially drive down the prices for E-rate supported services, many E-rate service contracts are already publicly available. These publicly available contracts will include most all of the data points that the Commission is interested in for purposes of oversight, including the prices being paid for E-rate supported services. The Commission should first determine what is already public before it requires more disclosures. Otherwise, additional reporting requirements on schools and libraries will increase the already heavy reporting burdens that they have.

**VI. If the Commission Implements Changes to the Competitive Bidding Process, It Should Only Do So in a Manner That Does Not Affect Currently Competitive Markets**

To maximize the cost-effectiveness of purchases made using E-rate funds, the Commission seeks comment on the current competitive bidding process and, in particular, whether the current competitive bidding process typically results in multiple competitive bids. Sunesys' experience has been that a healthy amount of competition for bids to provide E-rate services exists in the markets it serves. In fact, Sunesys cannot recall an instance where it has bid on an E-rate service contract that did not include multiple bidders.

The degree to which competitive bidding exists, however, is not a one-size-fits-all phenomenon. Sunesys is well aware that there are markets throughout the country where there

are only one or no bidders for E-rate service contracts. This fact, however, does not necessarily implicate the E-rate bidding process. It is more likely a function of that individual market for broadband services. Therefore, whatever new measures, if any, the Commission adopts regarding the competitive bidding process, such measures should be tailored in a manner that does not negatively affect those markets that are already fully competitive.

**VII. The Commission Should Allow Multi-Year Contracts in Excess of Three Years to Help Spread Costs Over Longer Periods Which Leads to Reduced Charges to Schools and Libraries**

The Commission also seeks comment regarding proposals to amend its rules on multi-year contracts under the E-rate program.<sup>7</sup> Multi-year contracts can provide cost savings by creating administrative efficiencies and lowering fees. They also allow schools and libraries to spread the costs of large capital expenditure projects over a longer period of time, encouraging investment in much-needed broadband solutions. As the Commission noted in the NPRM, however, the current E-rate application process does not provide incentives to enter into multi-year contracts.<sup>8</sup> Schools and libraries that enter into multi-year contracts currently are required to have those contracts re-approved every year to continue to receive funding commitments.

Therefore, the Commission should amend its rules to streamline the process for multi-year contracts. However, the Commission's proposal to limit its amendment to contracts that are no longer than three years does not go far enough. It has been Sunesys' experience that five-year contracts, sometimes with options to extend, are the most commonly desired contracts for significant capital expenditure projects. This length of time is more suitable to allow schools and libraries to spread the costs of the project over time, while at the same time allowing broadband service providers more time to recoup their own project costs. In addition, it is rare for a school

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<sup>7</sup> *Id.* at ¶¶ 239-243.

<sup>8</sup> *Id.* at ¶ 240.

or library to switch providers once they have entered into a contract for broadband services. Streamlining the application process so that they can take advantage of multi-year contracts will in many ways make more efficient what is already happening in practice.

**VIII. The Commission Should Consider the ConnectED Initiative's Recommendation to Provide Additional E-rate Funding for a Temporary, Three-Year Period**

The Commission asks in its NPRM whether it should consider a temporary increase in the E-rate funding cap “to reach our goals and ensure high-capacity broadband connectivity to and within schools.”<sup>9</sup> Consistent with this request, the Obama Administration has recently recommended, as part of its ConnectED initiative, that the Commission consider making additional E-rate funding available for a temporary period.<sup>10</sup> Depending on the details, Sunesys is open to supporting additional, temporary funding for a three-year period such as that recommended by the ConnectED initiative. Any additional funding, however, should be focused on making high-capacity broadband connectivity available to schools and libraries. Such a temporary boost in funding, if strategically managed, could help the E-rate program reach the goals set forth in the NPRM.

**CONCLUSION**

For all of the foregoing reasons, Sunesys respectfully requests that the Commission issue an Order in this proceeding consistent with the recommendations set forth herein.

Respectfully submitted,

/s/ Stephen D. Thompson  
Alan G. Fishel  
Stephen D. Thompson

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<sup>9</sup> *Id.* at § 173.

<sup>10</sup> The ConnectED initiative seeks to connect 99 percent of America's students to the internet through high-speed broadband and high-speed wireless within 5 years. What is ConnectED?, available at <http://www.whitehouse.gov/blog/2013/06/06/what-connected> (last visited Aug. 26, 2013).

Arent Fox LLP  
1717 K Street NW  
Washington, DC 20036-5342  
(202) 857-6000  
alan.fishel@arentfox.com  
stephen.thompson@arentfox.com

*Counsel for Sunesys, LLC*